NOTE: The document identifier and heading has been changed on this page to reflect that this is a performance specification. There are no other changes to this document. The document identifier on subsequent pages has not been changed, but will be changed the next time this document is revised.

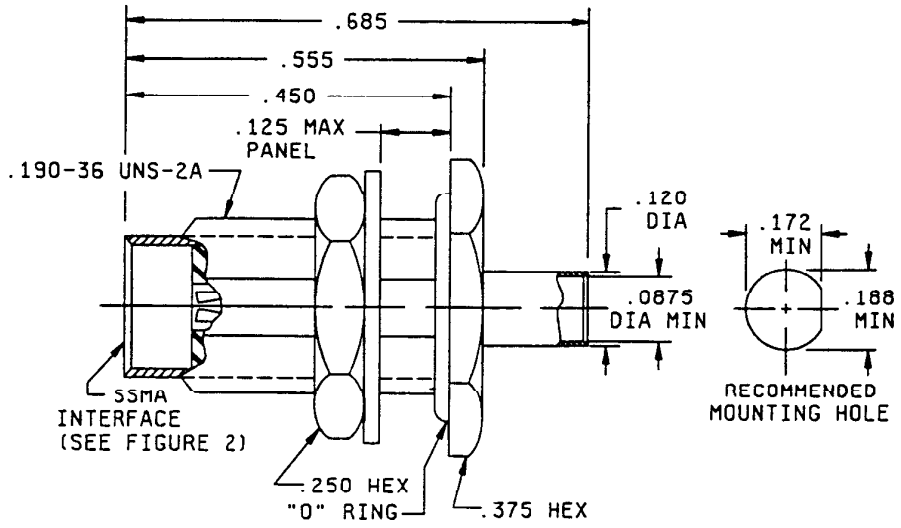
INCH-POUND
MIL-PRF-39012/138
27 June 1989

PERFORMANCE SPECIFICATION SHEET

CONNECTOR, RECEPTACLE, ELECTRICAL, SERIES SSMA, SOCKET CONTACT, FOR SEMIRIGID CABLE

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-PRF-39012.



NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Metric equivalents are in parentheses.
4. Wrench flats to accommodate standard wrench opening in accordance with FED-STD-H28, appendix 10.
5. All undimensioned pictorial representations are for reference purposes only.
6. Dimension .685 (17.40 mm) defines the maximum overall length of the connector when assembled to the cable.
7. Method of assembly to the cable shall be solder.
8. Unless otherwise specified, tolerances are ±.005 (0.13 mm).

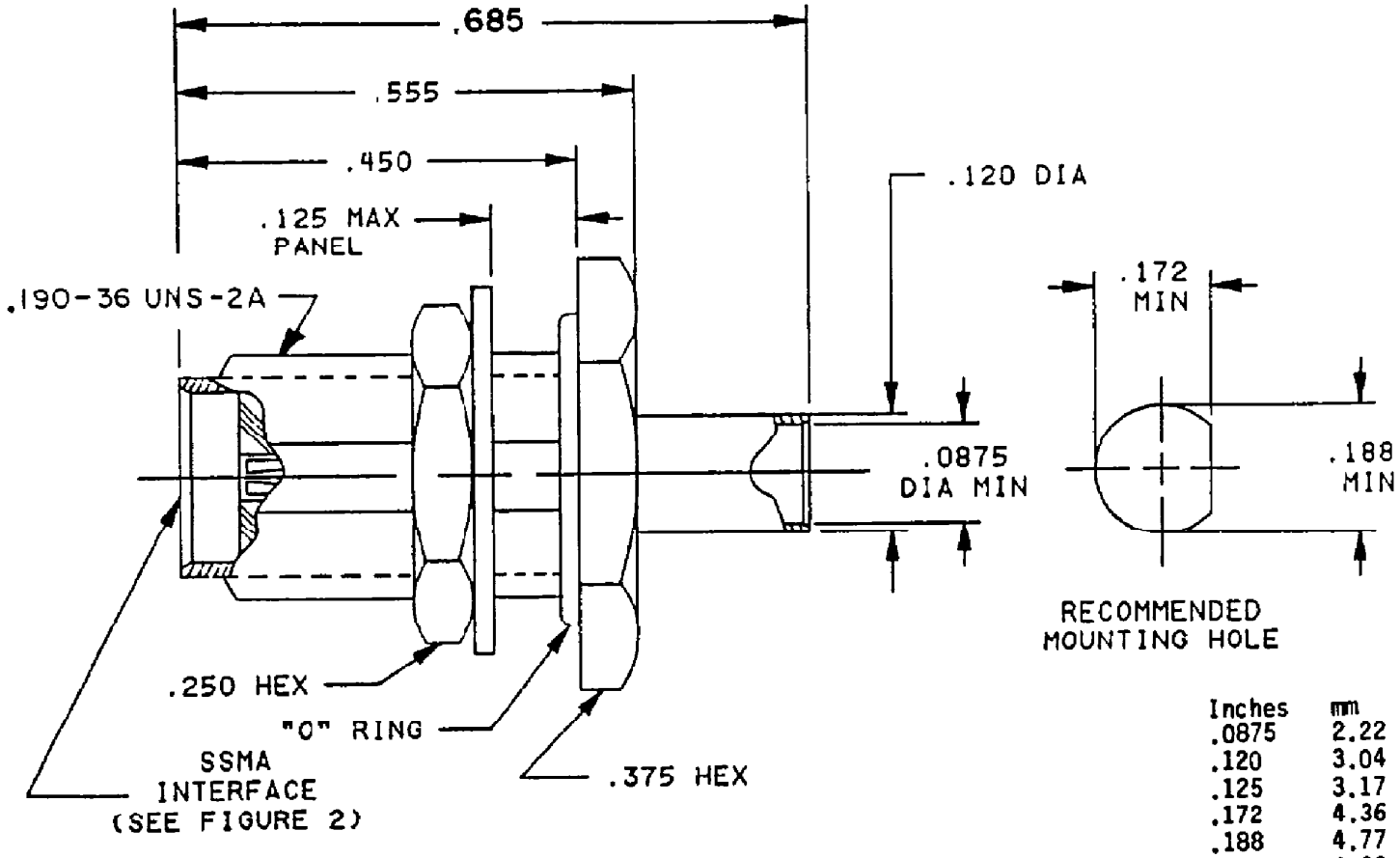
FIGURE 1. General configuration.

MILITARY SPECIFICATION SHEET

CONNECTOR, RECEPTACLE, ELECTRICAL, SERIES SSMA, SOCKET CONTACT, FOR SEMIRIGID CABLE

This specification is approved for use by all Departments and Agencies of the Department of Defense.

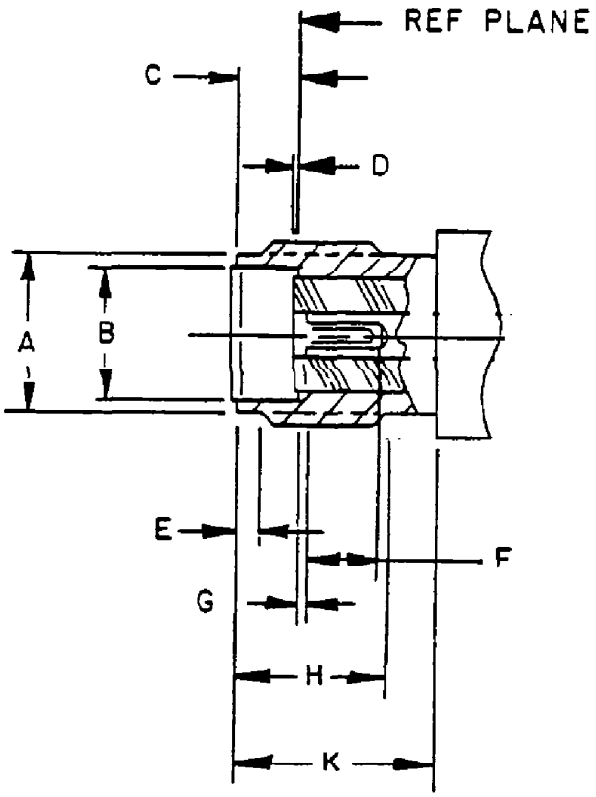
The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-C-39012.



Inches	mm
.0875	2.22
.120	3.04
.125	3.17
.172	4.36
.188	4.77
.190	4.82
.259	6.35
.375	9.52
.450	11.43
.555	14.09
.685	17.40

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Metric equivalents are in parentheses.
4. Wrench flats are to accommodate standard wrench opening in accordance with FED-STD-H28, appendix 10.
5. All undimensioned pictorial representations are for reference purposes only.
6. Dimension .685 (17.40 mm) defines the maximum overall length of the connector when assembled to the cable.
7. Method of assembly to the cable shall be solder.
8. Unless otherwise specified, tolerances are ±.005 (0.13 mm).

FIGURE 1. General configuration.



Letter	Minimum		Maximum	
	Inches	mm	Inches	mm
A	.153	3.89	.160	4.06
B	.127	3.23	.130	3.30
C	.075	1.90	.077	1.96
D	-.005	-0.13	.002	0.05
E	.020	0.51	.040	1.02
F	.115	2.92	---	---
G	.000	0.00	.010	0.25
H	.190	4.83	.210	5.33
K	.230	5.84	---	---

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.

FIGURE 2. Mating dimensions for socket terminations.

TABLE I. Dash number and applicable cable.

Dash no. 1/	Applicable cable 2/
CATEGORY A - FIELD SERVICEABLE (NO SPECIAL TOOLS REQUIRED)	
3001 4001	M17/133-RG405* M17/133-00001 through -0011
CATEGORY E - FIELD SERVICEABLE (STANDARD ASSEMBLY TOOL KIT) 3/ 4/ (SEE FIGURE 3)	
3002 4002	M17/133-RG405* M17/133-00001 through -0011

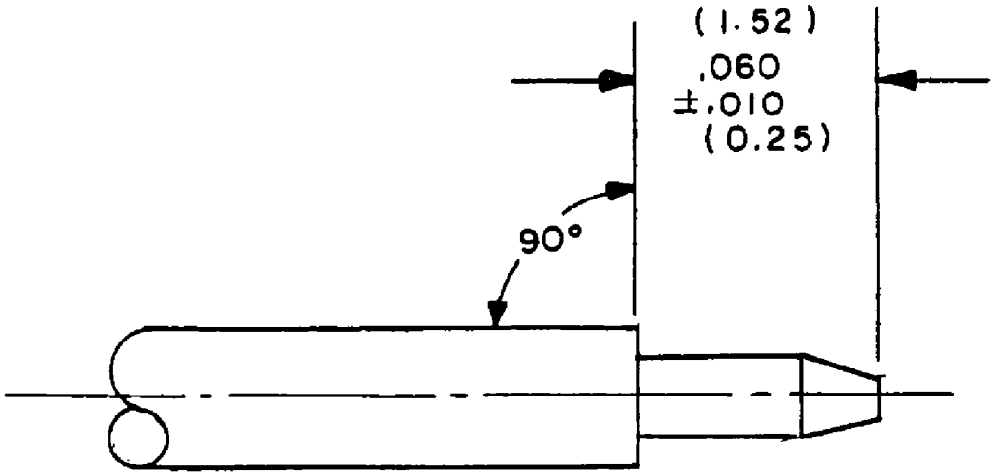
* Cable to be used when performing tests requiring cable.

1/ These connectors have captivated center contacts.

2/ MIL-C-17 cables are specified by the basic number. The latest version of each cable shall be applicable.

3/ Kit number - Ommi Spectra T-250, Amphenol 901-2500, or equivalent.

4/ All corrosion-resistant, steel-bodied connectors shall be gold-plated per MIL-G-45204, type II, class 1.



NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Metric equivalents are in parentheses.

FIGURE 3. Cable stripping dimensions for category E connectors.

ENGINEERING DATA:

Nominal impedance: 50 ohms.

Frequency range: 0 to 35 GHz.

Voltage rating:

250 volts rms at sea level.

60 V rms at 70,000 feet.

Operating temperature: -65°C to +165°C.

REQUIREMENTS:

Dimensions and configurations: See figures 1 and 2.

Force to engage and disengage:

Longitudinal force: Not applicable.

Torque: 2.0 inch-pounds maximum.

Mating characteristics:

Center contact (socket):

Oversize test pin: .0213 +.0001, -.0000 inch.
Test pin finish: 16 microinches.
Insertion depth: .045.
Number of insertions: 1.

Insertion force test:

Steel test pin diameter: .0208 +.0001, -.0000 inch.
Insertion depth: .050 to .065.
Test pin finish: 16 microinches.
Insertion force: 3 pounds maximum.

Withdrawal force test:

Steel test pin diameter: .0195 +.0000, -.0001 inch.
Insertion depth: .050 to .065.
Withdrawal force: 1 ounce minimum.
Test pin finish: 16 microinches.

Coupling proof torque: Not applicable.

Recommended mating torque: 2 inch-pounds.

Hermetic seal: Not applicable.

Leakage (pressurized connectors): Not applicable.

Center contact retention: 4 pounds minimum, axial force.

Radial torque: Not applicable.

Voltage standing wave ratio (VSWR): 1.07 + .010 F (F in GHz), maximum.

Moisture resistance: Method 106, MIL-STD-202, no measurements at high humidity. Insulation resistance shall be at least 200 megohms within 5 minutes after removal from humidity.

Contact resistance: In milliohms, maximum:

	Initial	After environment
Center contact:	4.0	4.0
Outer contact:	2.0	Not applicable
Outer conductor to body:	0.5	Not applicable

Dielectric withstanding voltage: 750 V rms, minimum at sea level.

Vibration, high frequency: Method 204, test condition D, MIL-STD-202.

Corona level:

Altitude: 70,000 feet, 190 V rms minimum.

Shock (specified pulse): Method 213, test condition I, MIL-STD-202.

Thermal shock: Method 107, test condition B, MIL-STD-202, except test high temperature shall be +85°C.

Barometric pressure (reduced): Not applicable.

RF high potential withstanding voltage: 500 V rms minimum.

Frequency: 5 MHz.

Leakage current: Not applicable.

Cable retention force: 30 pounds minimum.

Torque: 16 inch-ounces minimum.

Coupling mechanism retention force: Not applicable.

RF leakage: -90 + F (F in GHz)dB, minimum.

RF insertion loss: $.04\sqrt{F, GHz}$ dB, maximum.

NOTE: These parts are for use in general radio frequency applications.

NOTE: This specification sheet supersedes DESC drawing 86117 when a QPL source is obtained.

Part or Identifying Number (PIN): M39012/138- (dash number from table I).

CONCLUDING MATERIAL

Custodians:
Army - CR
Navy - EC
Air Force - 85
NASA - NA

Review activities:
Army - AR, MI
Navy - OS, SH
Air Force - 11, 17, 99

User activities:
Army - AT
Navy - AS, MC, SH
Air Force - 19

Preparing activity:
Army - CR

Agent:
DLA - ES

(Project 5935-3665-06)